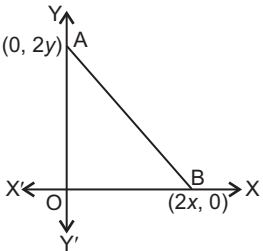


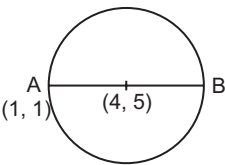
OBJECTIVE SECTION

[BASIC/STANDARD]

I. MULTIPLE CHOICE QUESTIONS

- If the distance between the points $(2, -2)$ and $(-1, x)$ is 5, one of the value of x is:
 (a) -2 (b) 2 (c) -1 (d) 1
- The mid-point of the line segment joining the points $A(-2, 8)$ and $B(-6, -4)$ is:
 (a) $(-4, -6)$ (b) $(2, 6)$ (c) $(-4, 2)$ (d) $(4, 2)$
- The points $A(9, 0)$, $B(9, 6)$, $C(-9, 6)$ and $D(-9, 0)$ are the vertices of a:
 (a) square (b) rectangle (c) rhombus (d) trapezium
- The distance of the point $P(2, 3)$ from the x -axis is:
 (a) 2 (b) 3 (c) 1 (d) 5
- The distance between the points $A(0, 6)$ and $B(0, -2)$ is:
 (a) 6 (b) 8 (c) 4 (d) 2
- The distance of the point $P(-6, 8)$ from the origin is:
 (a) 8 (b) $2\sqrt{7}$ (c) 10 (d) 6
- The distance between the points $(0, 5)$ and $(-5, 0)$ is:
 (a) 5 (b) $5\sqrt{2}$ (c) $2\sqrt{5}$ (d) 10
- AOBC is rectangle whose three vertices are $A(0, 3)$, $O(0, 0)$ and $B(5, 0)$. The length of its diagonal is:
 (a) 5 (b) 3 (c) $\sqrt{34}$ (d) 4
- The perimeter of a triangle with vertices $(0, 4)$, $(0, 0)$ and $(3, 0)$ is:
 (a) 5 (b) 12 (c) 11 (d) $7 + \sqrt{5}$
- The area of a triangle with vertices $A(3, 0)$, $B(7, 0)$ and $C(8, 4)$ is:
 (a) 14 (b) 28 (c) 8 (d) 6
- The points $(-4, 0)$, $(4, 0)$, $(0, 3)$ are the vertices of a:
 (a) right triangle (b) isosceles triangle (c) equilateral triangle (d) scalene triangle
- If the coordinates of one end of a diameter of circle are $(2, 3)$ and the coordinates of its centre are $(-2, 5)$, then the coordinates of the other end of the diameter are:
 (a) $(-6, 7)$ (b) $(6, -7)$ (c) $(6, 7)$ (d) $(-6, -7)$
- The point which lies on the perpendicular bisector of the line segment joining points $A(-2, -5)$ and $B(2, 5)$ is:
 (a) $(0, 0)$ (b) $(0, 2)$ (c) $(2, 0)$ (d) $(-2, 0)$

14. The fourth vertex D of a parallelogram ABCD whose three vertices A(-2, 3), B(6, 7) and C(8, 3) is:
 (a) (0, 1) (b) (0, -1) (c) (-1, 0) (d) (1, 0)
15. The vertices of a parallelogram in order are A(1, 2), B(4, y), C(x, 6), D(3, 6), then the value of x and y respectively are :
 (a) 6, 3 (b) 3, 6 (c) 5, 6 (d) 1, 4
16. If $P\left(\frac{a}{3}, 4\right)$ is the mid-point of the line segment, joining the points Q(-6, 5) and R(-2, 3), then the value of a is:
 (a) -4 (b) -12 (c) 12 (d) -6
17. The fourth vertex D of a parallelogram ABCD whose three vertices are A(-2, 3), B(6, 7) and C(8, 3) is:
 (a) (0, 1) (b) (0, -1) (c) (-1, 0) (d) (1, 0)
18. The coordinates of the point which is equidistant from the three vertices of the $\triangle AOB$ as shown in the figure is:
 (a) (x, y) (b) (y, x)
 (c) $\left(\frac{x}{2}, \frac{y}{2}\right)$ (d) $\left(\frac{y}{2}, \frac{x}{2}\right)$
- 
19. A circle drawn with origin as the centre passes through $\left(\frac{13}{2}, 0\right)$. The point which does not lie in the interior of the circle is:
 (a) $\left(-\frac{3}{4}, 1\right)$ (b) $\left(2, \frac{7}{3}\right)$ (c) $\left(5, -\frac{1}{2}\right)$ (d) $\left(-6, \frac{5}{2}\right)$
20. A line intersects the y-axis and x-axis at the points P and Q, respectively. If (2, -5) is the mid-point of PQ, then the coordinates of P and Q respectively are:
 (a) (0, -5) and (2, 0) (b) (0, 10) and (-4, 0)
 (c) (0, 4) and (-10, 0) (d) (0, -10) and (4, 0)
21. The area of a triangle with vertices (a, b + c), (b, c + a) and (c, a + b) is:
 (a) (a + b + c) (b) 0 (c) a + b + c (d) abc
22. If A(1, 3), B(-1, 2), C(2, 5) and D(x, y) are the vertices of a parallelogram ABCD, then the value of x is:
 (a) 3 (b) 4 (c) 0 (d) $\frac{3}{2}$
23. If the points A(1, 2), O(0, 0) and C(a, b) are collinear then:
 (a) a = b (b) a = 2b (c) 2a = b (d) a = -b
24. If the points (1, 2), (-5, 6) and (P, -2) are collinear, then P =
 (a) 7 (b) -5 (c) 6 (d) -3
25. If the centroid of the triangle formed by (7, x), (y, -6) and (9, 10) is (6, 3), then the value of x and y respectively are :
 (a) 5, 3 (b) 5, 2 (c) -3, 2 (d) 6, 5

26. The distance of the point $P(-3, -4)$ from the x -axis (in units) is : [CBSE(SP) 2019]
 (a) 3 (b) -3 (c) 4 (d) 5
27. If $A\left(\frac{m}{2}, 5\right)$ is the mid-point of the line segment joining the points $Q(-6, 7)$ and $R(-2, 3)$, then the value of m is : [CBSE(SP) 2019]
 (a) -8 (b) -4 (c) 12 (d) -6
28. The distance of the point $P(3, -4)$ from the origin is : [CBSE(SP) 2019]
 (a) 7 units (b) 5 units (c) 4 units (d) 3 units
29. The mid-point of the line segment joining the points $(-5, 7)$ and $(-1, 3)$ is : [CBSE(SP) 2019]
 (a) $(-3, 7)$ (b) $(-3, 5)$ (c) $(-1, 5)$ (d) $(5, -3)$
30. If the distance between the points $(4, k)$ and $(1, 0)$ is 5, then what can be the possible value of k ?
 (a) ± 2 (b) ± 3 (c) ± 4 (d) ± 5
31. In the given figure, AB is a diameter of the circle with centre $O(4, 5)$.
 If A is $(1, 1)$, then $B =$
 (a) $(6, 9)$ (b) $(7, 9)$
 (c) $(-7, 9)$ (d) $(7, -9)$
- 
32. The ratio in which $P(4, m)$ divides the line segment joining the points $A(2, 3)$ and $B(6, -3)$ is :
 (a) $1 : 2$ (b) $2 : 1$ (c) $1 : 3$ (d) $1 : 1$
33. If $A(5, 1)$, $B(1, 5)$ and $C(-3, -1)$ are the vertices of $\triangle ABC$, then length of median AD is :
 (a) $\sqrt{35}$ units (b) $\sqrt{37}$ units (c) $\sqrt{33}$ units (d) $\sqrt{31}$ units
34. The coordinates of a point A , where AB is a diameter of a circle whose centre is $(2, -3)$ and B is the point $(1, 4)$ are :
 (a) $(2, -10)$ (b) $(-3, 10)$ (c) $(-2, -5)$ (d) $(3, -10)$
35. The distance between the points (a, b) and $(-a, -b)$ is :
 (a) $2ab$ (b) $2(a + b)$ (c) $2\sqrt{a^2 + b^2}$ (d) $2\sqrt{a + b}$
36. If the mid-point of the line segment joining the points $P(6, b - 2)$ and $Q(-2, 4)$ is $(2, -3)$, then the value of $b =$
 (a) -5 (b) -6 (c) -7 (d) -8
37. The distance between the points $A(2a, 6a)$ and $B(2a + \sqrt{3}a, 5a)$ is :
 (a) a (b) $2a$ (c) $3a$ (d) $4a$
38. If $P\left(\frac{a}{2}, 4\right)$ is the mid-point of the line segment joining the points $A(-6, 5)$ and $B(-2, 3)$, then the value of a is
 (a) -8 (b) 7 (c) -6 (d) -5
39. If the points $A(x, 2)$, $B(-3, -4)$ and $C(7, -5)$ are collinear, then the value of x is :

(a) 53

(b) 60

(c) 63

(d) -63

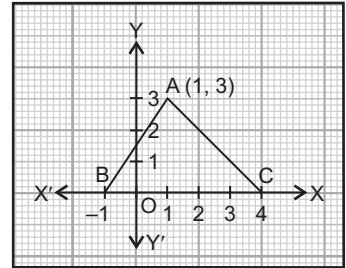
40. In the given figure, the area of $\triangle ABC$ in sq. units is :

(a) 5 sq. units

(b) 7.5 sq. units

(c) 9 sq. units

(d) 10 sq. units



41. The perimeter of triangle with vertices (0, 4), (0, 0) and (3, 0) is :

(a) 9 units

(b) 11 units

(c) 12 units

(d) 15 units

42. ABCD is a rectangle, whose three vertices are B(4, 0), C(4, 3) and D(0, 3), then the length of one of its diagonal is :

(a) 7 units

(b) 6 units

(c) 6.5 units

(d) 5 units

43. If A(1, 3), B(-1, 3), C(2, 5) and D(x, 5) are the vertices of a parallelogram ABCD, then the value of x is :

(a) 3

(b) 4

(c) 5

(d) 5.5

44. The mid-point of line segment AB is the point P(0, 4). If the coordinates of B are (-2, 3), then the coordinates of A are :

(a) (3, 5)

(b) (2, 5)

(c) (-3, 2)

(d) (5, -3)

45. If the points (2, -2), (-2, 1) and (5, 2) are the vertices of right triangle, then the area of this triangle is :

(a) 10.5 sq. units

(b) 12.5 sq. units

(c) 13.5 sq. units

(d) 15 sq. units

46. If the distances of P(x, y) from A(5, 1) and B(-1, 5) are equal, then :

(a) $x = y$ (b) $3x = 5y$ (c) $5x = 2y$ (d) $3x = 2y$

47. If the vertices of a triangle are (1, k), (4, -3), (-9, 7) and its area is 15 sq. units, then the value of k is :

(a) -1

(b) 2

(c) -2

(d) -3

48. The point A(3, y) is equidistant from the points P(6, 5) and Q(0, -3) then the value of y is :

(a) 0

(b) -1

(c) 1

(d) 2

49. The x-coordinate of a point P is twice its y-coordinate. If P is equidistant from Q(2, -5) and R(-3, 6), then coordinates of P are :

(a) (14, 8)

(b) (16, 8)

(c) (12, 6)

(d) (15, 12)

50. The ratio in which the point $\left(\frac{3}{4}, \frac{5}{12}\right)$ divides the line segment joining the points A $\left(\frac{1}{2}, \frac{3}{2}\right)$ and B(2, -5) is :

(a) 1 : 2

(b) 3 : 2

(c) 1 : 5

(d) 2 : 3

II. FILL IN THE BLANKS

1. The point which divides the line segment joining the points A(0, 5) and B(5, 0) internally in the ratio 2 : 3 is _____.

[CBSE(SP) 2019]

2. The point which divides the line segment joining the points (8, -9) and (2, 3) in ratio 1 : 2 internally lies in the _____ quadrant.

[CBSE(SP) 2019]

3. The distance between the points (0, 0) and (36, 15) is _____.

4. The point on the x-axis which is equidistant from (2, -5) and (-2, 9) is _____.

- The values of y for which the distance between the points $P(2, -3)$ and $Q(10, y)$ is 10 units are _____.
- If $Q(0, 1)$ is equidistant from $P(5, -3)$ and $R(x, 6)$, then the value of x is _____.
- The ratio in which the point $(-4, 6)$ divides the line segment joining the points $A(-6, 10)$ and $B(3, -8) =$ _____.
- The ratio in which the y -axis divides the line segment joining the points $(5, -6)$ and $(-1, -4)$ is _____.
- If the points $A(6, 1)$, $B(8, 2)$, $C(9, 4)$ and $D(p, 3)$ are the vertices of the parallelogram, taken in order, then the value of p is _____.
- The ratio in which the line segment joining the points $(-3, 10)$ and $(6, -8)$ is divided by $(-1, 6)$ is _____.
- The ratio in which the line segment joining $A(1, -5)$ and $B(-4, 5)$ is divided by the x -axis is _____.
- The coordinates of a point A , where AB is the diameter of a circle whose centre is $(2, -3)$ and $B(1, 4)$ is _____.
- If $(1, 2)$, $(4, y)$, $(x, 6)$ and $(3, 5)$ are the vertices of a parallelogram taken in order, then x and y are respectively _____.
- The area of rhombus if its vertices are $(3, 0)$, $(4, 5)$, $(-1, 4)$ and $(-2, -1)$ taken in order is _____.
- The area of the triangle formed by the points $P(-1.5, 3)$, $Q(6, -2)$ and $R(-3, 4)$ is _____.

III. VERY SHORT ANSWER QUESTIONS

- What are the coordinates of a point on the y -axis which is at a distance of -5 units from x -axis?
- In which quadrant both the abscissa and the ordinate are negative?
- Find the distance of the point $A(8, 6)$ from the origin.
- Distance between the points (x_1, y_1) and (x_2, y_2) can either be expressed as $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$ or as $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$. Is it true?
- Find the coordinates of the centre of a circle, if the coordinates of the ends of its diameter are $(-5, 4)$ and $(3, -2)$.
- In the figure, if $AP = 2$ cm and $PB = 4$ cm, find the coordinates of P .

$A(2, -2)$

$B(-7, 4)$
- Write the formula for the area of a triangle in terms of coordinates of its vertices.
- If the area of a triangle having vertices as $P(x_1, y_1)$, $Q(x_2, y_2)$ and $R(x_3, y_3)$ is zero, then what can we say about points P , Q and R ?
- Write the coordinates of a point on x -axis which is equidistant from the point $A(-2, 0)$ and $B(6, 0)$. [CBSE 2019]
- Find the coordinates of a point A , where AB is a diameter of a circle whose centre is $(2, -3)$ and B is the point $(1, 4)$. [CBSE 2019]
- Find the coordinates of a point A , where AB is a diameter of the circle with centre $(-2, 2)$ and B is the point with coordinates $(3, 4)$. [CBSE 2019]

12. Find the distance of the point (x, y) from the origin.

[CBSE 2018]

ANSWERS

I. Multiple Choice Questions :

1. (b) 2. (c) 3. (b) 4. (b) 5. (b) 6. (c) 7. (b) 8. (c) 9. (b) 10. (c)
11. (b) 12. (a) 13. (a) 14. (b) 15. (a) 16. (b) 17. (b) 18. (a) 19. (d) 20. (d)
21. (b) 22. (b) 23. (c) 24. (a) 25. (b) 26. (c) 27. (a) 28. (b) 29. (b) 30. (c)
31. (b) 32. (d) 33. (b) 34. (d) 35. (c) 36. (d) 37. (b) 38. (a) 39. (d) 40. (b)
41. (c) 42. (d) 43. (b) 44. (b) 45. (b) 46. (d) 47. (d) 48. (c) 49. (b) 50. (c)

II. Fill in the Blanks :

1. (2, 3) 2. (iv) 3. 39 units 4. $-7, 0$ 5. $-9, 3$ 6. ± 4 7. $2 : 7$ 8. $5 : 1$
9. 7 10. $2 : 7$ 11. $1 : 1$ 12. $(3, -10)$ 13. $6, 3$ 14. 24 sq. units 15. 0

III. Verty Short Answer Questions :

1. $(0, -5)$ 2. IIIrd 3. 10 4. Yes 5. $(-1, 1)$ 6. $(-1, 0)$
7. $\frac{1}{2} |x_1(y_2 - y_3) + x_2(y_3 - y_1) + x_3(y_1 - y_2)|$ 8. P, Q and R are collinear
9. $(2, 0)$ 10. $(3, -10)$ 11. $(-7, 0)$ 12. $\sqrt{x^2 + y^2}$